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DRINKERS, DRINKING AND ALCOHOL-RELATED MORTALITY AND HOSPITALIZATIONS

A STATISTICAL COMPENDIUM

[1980 Edition]

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Introduction

This *Statistical Compendium* is the continuation of a series of statistical tables that have been published by the Center since 1960.[1] This *Compendium* differs from the previous publications in both scope and purpose.

As in previous issues, we are presenting substantive data of interest to those in the field of alcohol studies. We are also providing a small "data bank" on drinking and drinkers in the 50 states (and the District of Columbia). Some readers will probably find it worthwhile to produce decks of IBM cards made from these data. Data for geographic and time units are especially suited for cumulative knowledge. Unlike surveys incorporating data for individuals, geographic areas and time periods can be publicly identified; other researchers can link up their own coded data to the extant data available in printed form or on IBM cards. We hope that this will ensue from this issue. Another purpose for expanding this issue is to alert both readers of research reports and researchers themselves to matters which we feel are important but have been neglected in the field of statistics on alcohol. Considerations of validity of data have led to the following innovations:

1. The use of total cirrhosis rather than alcoholic cirrhosis death rates to remove some of the extraneous influence, such as practices regarding autopsies, that influence mortality data (but raw mortality is presented for all 3 categories of cirrhosis mortality).

2. Separate mortality for Whites and Nonwhites because of substantial racial differences in mortality.

3. The use of 3-year averages because of the likelihood of considerable year-to-year fluctuations in mortality in the states with small populations.

4. Computations of mortality rates separately for cirrhosis and for alcoholism + alcoholic psychoses because the patterns for these two are so different.

5. The introduction of the concept of weighting data according to the size of the drinking-age population. Thus a state such as California would have more influence on certain data than would Wyoming.

6. Introducing the concept of lagging to the years of consumption and the years of mortality (mainly relevant for cirrhosis). This idea has been presented by researchers in both Scandinavia and Ontario, but has not been applied to data for the U.S.A.

[1] The purpose of the original series of statistical tables was to illustrate lectures delivered by Mark Keller at the Rutgers Summer School of Alcohol Studies. The tables were compiled by Mark Keller and Vera Efron every 2 years until 1974, when Carol Gurioli became a co-author. Copies of the 1976 edition are still available. This contains 16 tables on drinkers (1946–1969), alcohol consumption in the U.S.A. and states (1790–1975; and 1947 and 1974), consumption in 27 countries, numbers of alcoholics and rates of alcoholism (by the Jellinek formula; 1970 and 1975), hospital admissions (1970) and mortality from alcoholic psychoses, alcoholism and alcoholic cirrhosis (1974). (KELLER, M. and GURIOLI, C. Statistics on consumption of alcohol and alcoholism, 1976 Edition. Cost: $2.50. Order from Publications Division, Rutgers Center of Alcohol Studies, P.O. Box 969, Piscataway, N.J. 08854.)

7. Relevant to the question of weighting, giving the reader a clearer picture of the relation between per-capita consumption and cirrhosis mortality by presenting the mortality rates for aggregated blocks of states according to per-capita consumption of absolute alcohol.

8. Focusing on the question of the concordance between per-capita purchase of alcohol and per-capita consumption by presenting a table on tourist expenditures. Here we only raise the question, not answer it.

An important purpose of the *Compendium* is to alert the reader or potential researcher to data readily available. Most of the demographic data for states have come from the Statistical Abstracts of the U.S.; but other data, such as the percentage of Catholics (related to per-capita consumption), come from other sources. Since these demographic variables were chosen because of their strong relation to per-capita consumption, the reader also gets a list of such variables.

The most notable deletions from previous statistical tables are those pertaining to numbers of alcoholics and rates of alcoholism estimated from the Jellinek formula. It is our contention that death rates from cirrhosis within a reasonably circumscribed field (e.g., among states in the U.S.; among countries with predominantly European ancestry; among years within a time span of one generation) provide fairly good indications of relative differences in the prevalence of chronic heavy drinking. We do not feel that we can honestly estimate how many alcoholics there are in a population, especially if the term "alcoholism" encompasses sporadic excessive alcohol consumption.[2]

Although we are somewhat skeptical of its utility, for those people who wish to estimate the numbers of alcoholics or rates of alcoholism in populations, we herewith present the formula traditionally used: $A = (PD/K)R$, where P = percentage of liver cirrhosis deaths attributable to alcoholism (62.8 for males, 21.6 for females); D = deaths from liver cirrhosis; K = percentage of all alcoholics with complications who die of liver cirrhosis (0.694); and R = ratio of all alcoholics to alcoholics with complications (5.3). In previous editions of these statistical tables (see footnote 1) it was assumed that the rate of alcoholism in the period 1940–45 had remained substantially the same, so that the prevalence of alcoholism was estimated by applying the 1940–45 rate (total, 4200 per 100,000 of the population aged 20+; men, 7300; women, 1300) to current population estimates.

Finally, we reprint the *Caveat* that appeared in previous issues:

"The most important general caution to emphasize is that these numbers are not sacred. Aside from the possibilities of error in the source, in copying, and in our arithmetical manipulations, there is the certainty of incompleteness. We say, for example, that the consumption of wine in P place in T time was X. It was not. We really know only how much tax-paid wine was delivered to distributors in P during T. How much of it (and of left-over stock) was bought and actually drunk; how much more

[2] In the Jellinek formula there is also an inherent internal contradiction in assuming a fixed ratio of the percentage of cirrhotic deaths attributable to excessive alcohol consumption. On the contrary, one would logically expect that as the percentage of heavy drinkers (however defined) increased, alcohol-caused cirrhosis would increase, but non-alcohol-caused cirrhoses would show no systematic pattern—hence there would be a steady increase in the proportion of cirrhosis attributable to alcohol as the percentage of heavy drinkers increased.

was brought in noncommercially; how much home-made or bootleg product was consumed; how much was left in store stocks; how much was removed to "dry" areas rather than consumed in *P*—we don't know. The tables give an idea of the consumption; they give many ideas. They are stuff to think about—that's their purpose. When it comes to 'alcoholism' the accuracy and values of the numbers are even more uncertain. Diagnoses are inconsistently made, and then inconsistently recorded, and then inconsistently reported—and then they go through calculating machines and come out as estimates, which need interpretation. And yet the tabulations do give an idea of the possible magnitudes. This is enormously useful. For most purposes it is not really necessary to know down to the last ounce of liquor or up to the last alcoholic admission in the last 24 hours. What we hope—in releasing these tables—is that they will be used cautiously and not be cited as the authoritative and accurate 'findings' (not to speak of 'conclusions') of the Rutgers Center of Alcohol Studies."

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TABLE 1.—*Percentages of Drinkers[a] According to Selected Characteristics in the U.S.A.: National, Regional and Local Surveys*

	U.S.A. 1946 (Age 21+)	*U.S.A. 1963* (21+)	*U.S.A. 1965* (21+)	*U.S.A.[b] 1975* (18+)	*Western NY SMSA 1975* (18+)	*Boston SMSA 1975* (18+)	*San Francisco SMSA 1975* (18+)	*Marin Cty, Calif. 1975* (18+)
Total population	65	71	68	65	86	83	85	94
Sex								
Men	75	79	77	73	89	87	89	95
Women	56	63	60	58	84	80	83	93
Age								
18–20	—	—	—	74	91		—	—
(18–24)						(91)		
21–29	64	79	76	75	94		—	—
(25–34)						(92)		
30–49	65	76	74	71	88		88	96
(35–44)						(86)		
50+	48	61	56	52	76		79	89
(45+)						(76)		
Race								
White	—	—	69	67	87	85	95	—
Black	—	—	62	55	65	73	78	—
Religion								
Protestant[c]	59	—	—	—	89	—	96[d]	92
Liberal	—	83	80	76	—	—	—	—
Other	—	58	52	53	—	—	—	—
Catholic	79	89	83	79	81	—	94[d]	94
Jewish	87	90	92	83	—	—	94[d]	98
None	—	—	79	77	95	—	—	99
Education								
Grammar school or less	62	53	53	44	69	—	—	—
Some high school		70	66	54	86	—	—	—
Completed high school	70[e]	79	74	74	89	—	—	—
Some college		76	74	72	88	—	—	—
College graduate +		85	82	79	89	—	—	—
Marital status								
Single	—	79	69	65	88	84	—	—
Married	—	72	74	77	84	86	—	—
Divorced or separated	—	69	72	75	91	82	—	—
Widowed	—	51	55	43	72	72	—	—
Income[f]			*(ISP)[g]*			*(ISP)*	*(ISP)[g]*	*(ISP)[g]*
Upper	70	86	(81)	79	91	(I–III: 90)	(93)	(95)
Upper middle			(70)			—	(87)	(96)
Middle	66	66	(64)	65	87	(IV: 85)	(84)	(94)
Lower	62	54	(55)	53	46	(V: 74)	(84)	(83)
Community Size								
>1,000,000	77	79	79	—	—	—	—	—
49,999–1,000,000	72	70	77	—	—	—	—	—
2,500–50,000	61	73	74	—	—	—	—	—
<2,500 and farm	46	60[h]	54	—	—	—	—	—

Sources: U.S.A., 1946 (22); U.S.A., 1963 (19); U.S.A., 1965 (3); U.S.A., 1975 (21); Western N.Y. (1); Boston (41); San Francisco (5); Marin County (4).

[a] Drinkers (nonabstainers) are those who have had a drink in the past year. The above percentages are based on the "adult" population, aged 21+ in the 1946, 1963 and 1965 surveys, and those aged 18+ in the 1975 surveys. The more realistic drinking-age population has been considered that aged 15+. But recent surveys indicate 14+ is now more realistic. In the U.S. in 1975, assuming that about 70% of adults are drinkers, this would give about 94,000,000 drinkers. Assuming that about 65% of the population aged 14 to 20 years are drinkers, the total number of drinkers in the U.S.A. is about 113,000,000.

[b] The proportions of drinkers were obtained by converting the original tables from row to column percentages. Thus the values listed here can only be considered approximate, due to rounding error and the presence of nonrespondents in some categories. Derived from the "Wave 2," June 1975 survey.

[c] Liberal Protestant = Lutherans, Episcopalians, Presbyterians and, in 1963, Congregationalists. Other = Baptists, Methodists and members of small or unspecified Protestant denominations.

[d] Whites only.

[e] "Had at least a high school education."

[f] Income is not strictly comparable. The distributions were obtained by grouping as closely as possible the categories used in the respective studies, following a normal distribution. In the 1946 survey the labels were "prosperous, average, poor."

[g] Based on over-all frequencies to divide the sample into approximate quartiles. ISP = index of social position.

[h] All rural.

TABLE 2.—*Percentages of Drinkers among Adolescents Surveyed in the U.S.A., by Sex and Grade in School or Age*

	D.C. (*Suburb*) 1941	D.C. (*Suburb*) 1945	UTAH (*State*) 1951	N.Y. (*Nassau Cty*) 1953	WISC. (*Racine Cty*) 1956	KANS. (*Metrop.*) 1956	KANS. (*Nonmetrop.*) 1956	N.Y. (*State*) 1962
Definition:[a]	*O*	*O*	*O*	*O*	*E*	*E*	*E*	*E*
Boys								
Grade 9	—	—	—	77[b]	—	—	—	—
Age 14	—	—	—	—	57[c]	—	—	63
Grade 10	17	26	45	83	—	—	—	—
Age 15	—	—	—	—	62	56[c]	45[c]	61
Grade 11	35	37	—	89	—	—	—	—
Age 16	—	—	—	—	76	68	56	71
Grade 12	43	48	42	94	—	—	—	—
Age 17	—	—	—	—	71	63	63	81
Age 18+	—	—	—	—	79	72	65	74
Girls								
Grade 9	—	—	—	77[b]	—	—	—	—
Age 14	—	—	—	—	47[c]	—	—	32
Grade 10	9	16	23	—	—	—	—	—
Age 15	—	—	—	—	56	33[c]	23[c]	50
Grade 11	21	29	—	—	—	—	—	—
Age 16	—	—	—	—	57	47	30	60
Grade 12	23	30	19	—	—	—	—	—
Age 17	—	—	—	—	72	55	39	66
Age 18+	—	—	—	—	77	51	41	69

TABLE 2.—*continued*

	MICH. (*"Middle-sized comm."*) 1962	CALIF. (*San Mateo*) 1968	CALIF. (*San Mateo*) 1969	CALIF. (*San Mateo*) 1973	CALIF. (*San Mateo*) 1975	*Nation-wide* 1975	GA. (*Rome; middlesized, semirural*) 1978
Definition:[a]	*O*	*PY*	*PY*	*PY*	*PY*	*PY*	*O*
Boys							
Grade 7	—	—	53	73	70	—	13
Grade 8	—	—	60	79	79	66	22
Grade 9	—	61	66	82	82	—	38
Age 14	—	—	—	—	—	75	—
Grade 10	—	64	75	86	87	—	51
Age 15	—	—	—	—	—	80	—
Grade 11	—	71	79	87	88	—	56
Age 16	63[c]	—	—	—	—	81	—
Grade 12	—	76	82	86	89	—	68
Age 17	70	—	—	—	—	86	—
Age 18+	83	—	—	—	—	83	—
Girls							
Grade 7	—	—	38	67	63	—	5
Grade 8	—	—	51	78	77	—	13
Grade 9	—	52	63	80	82	—	32
Age 14	—	—	—	—	—	69	—
Grade 10	—	60	67	84	86	—	39
Age 15	—	—	—	—	—	70	—
Grade 11	—	67	72	84	88	—	49
Age 16	36[c]	—	—	—	—	74	—
Grade 12	—	71	76	87	88	—	51
Age 17	41	—	—	—	—	79	—
Age 18+	78	—	—	—	—	75	—

Sources: D.C., 1941 (15); D.C., 1945 (15); Utah, 1951 (25); N.Y., 1953 (12); Wisc., 1956 (40); Kans., 1956 (39); N.Y., 1962 (17); Mich., 1962 (16); Calif., 1968–75 (2); Nationwide, 1975 (20); Ga., 1978 (18).

[a] O = Occasional, frequent or recurrent drinking; E = Use of alcohol ever (except for religious ceremonies); PY = A drink in the previous year.

[b] Boys and girls combined.

[c] And younger, in high school.

TABLE 3.—*Apparent Consumption of Alcoholic Beverages and Absolute Alcohol in each Class of Beverage, in U.S. Gallons per Capita of the Drinking-Age Population,[a] U.S.A. 1790–1978[b]*

	SPIRITS[b]		WINE[b]		BEER[b]		TOTAL
	Beverage	*Absolute Alcohol*	*Beverage*	*Absolute Alcohol*	*Beverage*	*Absolute Alcohol*	*Absolute Alcohol*
1790	5.10	2.30	0.60	0.10	34.00	3.40	5.80
1800	7.20	3.30	0.60	0.10	32.00	3.20	6.60
1810	8.70	3.90	0.40	0.10	31.30	3.10	7.10
1820	8.70	3.90	0.40	0.10	28.00	2.80	6.80
1830	9.50	4.30	0.50	0.10	27.00	2.70	7.10
1840	5.50	2.50	0.50	0.10	6.30	0.50	3.10
1850	4.17	1.88	0.46	0.08	2.70	0.14	2.10
1860	4.79	2.16	0.57	0.10	5.39	0.27	2.53
1870	3.40	1.53	0.53	0.10	8.73	0.44	2.07
1871–80	2.27	1.02	0.77	0.14	11.26	0.56	1.72
1881–90	2.12	0.95	0.76	0.14	17.94	0.90	1.99
1891–95	2.12	0.95	0.60	0.11	23.42	1.17	2.23
1896–1900	1.72	0.77	0.55	0.10	23.72	1.19	2.06
1901–05	2.11	0.95	0.71	0.13	26.20	1.31	2.39
1906–10	2.14	0.96	0.92	0.17	29.27	1.47	2.60
1911–15	2.09	0.94	0.79	0.14	29.53	1.48	2.56
1916–19	1.68	0.76	0.69	0.12	21.63	1.08	1.96
1934	0.64	0.29	0.36	0.07	13.58	0.61	0.97
1935	0.96	0.43	0.50	0.09	15.13	0.68	1.20
1936–41	1.40	0.63	0.80	0.14	17.22	0.77	1.54
1942–46	1.84	0.83	1.11	0.18	23.44	1.05	2.06
1947–50	1.63	0.73	1.12	0.20	23.76	1.07	2.00
1951–55	1.69	0.76	1.20	0.21	22.79	1.03	2.00
1956–60	1.82	0.82	1.28	0.22	21.81	0.98	2.02
1961–65	2.03	0.92	1.38	0.23	22.42	1.01	2.16
1966–70	2.42	1.09	1.57	0.26	24.50	1.10	2.45
1971	2.62	1.18	2.08	0.33	25.90	1.17	2.68
1972	2.60	1.12	2.16	0.31	26.62	1.20	2.63
1973	2.61	1.12	2.25	0.33	27.49	1.24	2.69
1974	2.57	1.10	2.13	0.31	27.76	1.25	2.66
1975	2.58	1.11	2.24	0.32	28.08	1.26	2.69
1976	2.54	1.09	2.26	0.33	28.09	1.26	2.68
1977	2.56	1.10	2.37	0.34	29.05	1.31	2.75
1978	2.60	1.12	2.51	0.36	29.78	1.34	2.82

[One U.S. gallon = 3.785 liters = 0.833 imperial gallon.]

Sources: references 8, 23, 29, 31, 33, 34, 42.

[a] Through 1973 the drinking-age population was the population aged 15 years and over; data since 1973, in this and subsequent tables, are based on a drinking-age population aged 14 and over. These tables do not show the illegally produced alcohol that enters consumption; they are based on "tax-paid withdrawals." The National Prohibition years, 1920–33, are necessarily omitted; the immediately following years apparently represent the increasing replacement of illicit by legal beverages.

[b] Through 1971 the average absolute alcohol content in distilled spirits was assumed to be 45%; beginning in 1972 that percentage has been changed to 43. Through 1951 the average alcohol content of wine was assumed to be 18%; in 1952–68, 17%; in 1969–71, 16%; beginning in 1972, 14.5%. The beer data through 1840 essentially reflect consumption of cider, the average alcohol content of which was assumed to be 10% by volume; through 1919 the average alcohol content of beer was assumed to be 5% by volume; since 1934, 4.5%

TABLE 4.—*Apparent Consumption of Alcoholic Beverages and Total Absolute Alcohol, in U.S. Gallons per Capita of the Population Aged 14+, by State, 1978*

	Spirits	*Wine*	*Beer*	*Total Absolute Alcohol*[a]	*Rank*
Alabama[b]	2.12	0.91	21.87	2.03	44
Alaska	4.16	3.53	31.63	3.73	3
Arizona	2.78	3.00	39.52	3.41	9
Arkansas	1.76	0.87	21.48	1.85	49
California	3.22	5.29	31.49	3.57	5
Colorado	3.51	3.66	33.41	3.54	6
Connecticut	2.92	2.93	24.01	2.76	27
Delaware	3.32	1.93	29.67	3.04	17
Florida	3.47	2.65	33.85	3.40	10
Georgia	2.80	1.43	25.33	2.55	33
Hawaii	3.18	3.61	30.95	3.28	11
Idaho[b]	2.02	2.15	33.62	2.69	30
Illinois	2.86	2.42	30.62	2.96	19
Indiana	1.88	1.21	26.70	2.18	42
Iowa[c]	1.80	0.82	31.33	2.30	38
Kansas	1.60	0.89	25.33	1.96	46
Kentucky	1.90	0.71	22.15	1.92	47
Louisiana	2.60	1.97	29.96	2.75	28
Maine[d]	2.64	2.08	29.01	2.74	29
Maryland	3.34	2.39	30.41	3.15	14
Massachusetts	3.04	3.12	30.84	3.15	15
Michigan[e]	2.56	2.12	31.75	2.84	22
Minnesota	2.82	1.75	29.15	2.78	26
Mississippi	2.23	0.81	25.88	2.24	40
Missouri	1.94	1.52	29.24	2.37	37
Montana[b]	2.66	1.57	40.61	3.20	12
Nebraska	2.18	1.38	33.33	2.64	32
Nevada	8.97	6.62	49.68	7.05	1
New Hampshire[f]	7.14	4.19	44.06	5.66	2
New Jersey	2.68	3.22	25.90	2.79	25
New Mexico	2.38	2.49	36.58	3.03	18
New York	2.81	3.25	26.21	2.86	21
North Carolina[d]	2.09	1.63	24.21	2.22	41
North Dakota	2.79	1.25	31.29	2.79	24
Ohio[g]	1.78	1.55	28.81	2.28	39
Oklahoma	2.02	1.07	24.00	2.10	43
Oregon[h]	2.38	3.68	29.89	2.90	20
Pennsylvania[b]	1.80	1.64	30.33	2.38	36
Rhode Island	2.81	3.83	31.26	3.17	13
South Carolina	2.91	1.34	27.34	2.68	31
South Dakota	2.56	1.33	26.58	2.49	34
Tennessee	1.75	0.83	25.61	2.02	45
Texas	2.06	1.55	37.99	2.82	23
Utah[i]	1.50	1.07	21.59	1.77	50
Vermont[j]	3.86	3.63	33.62	3.70	4
Virginia[b]	2.21	1.64	27.18	2.41	35
Washington[c]	2.77	3.73	30.96	3.12	16
West Virginia[b]	1.91	0.69	21.42	1.89	48
Wisconsin	3.06	2.15	39.96	3.42	8
Wyoming	3.32	1.73	40.59	3.51	7
District of Columbia	7.51	7.32	31.74	5.72	
U.S.A.	2.60	2.51	29.78	2.82	

[One U.S. gallon = 3.785 liters = 0.833 imperial gallon.]

Sources: references 8, 29, 31, 34, 42.

[a] The average alcohol content of distilled spirits was taken as 43%; of all wines (including fortified and unfortified) as 14.5%; and of all beer as 4.5%.

[b] Monopoly state: packaged wine and distilled spirits sold only in state-owned stores.

[c] Monopoly state: packaged alcoholic beverages with an alcohol content of 4% or over (by weight) sold only in state-owned stores.

[d] Monopoly state: packaged alcoholic beverages with an alcohol content of 14% or over (by volume) sold only in state-owned stores.

[e] Monopoly state: packaged alcoholic beverages with an alcohol content of 16% or over (by volume) sold only in state-owned stores.

[f] Monopoly state: packaged alcoholic beverages with an alcohol content of over 6% (by volume) sold only in state-owned stores.

[g] Monopoly state: packaged alcoholic beverages with an alcohol content of over 21% (by volume) sold only in state-owned stores.

[h] Monopoly state: packaged distilled spirits sold only in state-owned stores.

[i] Monopoly state: packaged alcoholic beverages with an alcohol content of 3.2% or over (by weight) sold only in state-owned stores.

[j] Monopoly state: packaged distilled spirits and wine with an alcohol content of 14% or over (by volume) and beer with an alcohol content of 6% or over (by volume) sold only in state-owned stores.

TABLE 5.—*Apparent Consumption of Alcoholic Beverages and Total Absolute Alcohol, in U.S. Gallons per Capita of the Drinking-Age Population,[a] by State, 1960–62 (Average) and 1975–77 (Average)*

	1960–62 Average				1975–77 Average				Rank	
	Spirits	*Wine*	*Beer*	*Total Absolute Alcohol*	*Spirits*	*Wine*	*Beer*	*Total Absolute Alcohol*	*1960–62*	*1975–77*
Alabama	0.97	0.35	8.28	0.87	2.01	1.05	20.38	1.93	48	48
Alaska	3.69	0.85	19.67	2.69	4.71	3.35	32.23	3.96	5	3
Arizona	1.63	1.67	24.48	2.11	2.57	2.59	37.08	3.15	19	11
Arkansas	0.94	0.69	9.96	0.99	1.51	0.83	19.76	1.66	47	50
California	2.57	3.03	21.12	2.61	3.13	4.94	29.34	3.38	8	6
Colorado	2.12	1.20	20.40	2.07	3.15	2.93	32.25	3.23	21	8
Connecticut	3.09	1.84	21.82	2.68	2.97	2.56	23.17	2.69	6	27
Delaware	2.80	1.58	23.26	2.58	3.36	1.76	28.16	2.97	9	17
Florida	2.71	1.29	18.71	2.28	3.42	2.42	30.51	3.19	15	9
Georgia	1.33	0.32	8.70	1.04	2.76	1.21	22.33	2.37	45	34
Hawaii	—	1.09	13.47	0.79	3.03	2.89	34.13	3.26	49	10
Idaho	1.34	0.44	19.35	1.54	1.89	1.89	33.51	2.55	36	31
Illinois	2.35	1.26	26.59	2.47	3.03	2.33	29.38	2.96	10	18
Indiana	1.17	0.60	21.23	1.58	1.81	1.03	24.23	2.08	35	41
Iowa	1.09	0.21	21.06	1.48	1.80	0.71	28.87	2.18	37	39
Kansas	1.29	0.43	13.11	1.24	1.61	0.80	25.21	1.95	41	44
Kentucky	1.41	0.39	17.23	1.47	1.87	0.69	23.14	1.94	38	45
Louisiana	2.06	1.95	20.13	2.17	2.44	2.02	28.65	2.63	18	28
Maine	1.90	0.51	20.87	1.88	2.50	1.78	31.51	2.75	29	24
Maryland	2.26	1.45	25.60	2.41	3.38	2.28	29.96	3.13	11	12
Massachusetts	2.49	1.54	22.42	2.39	3.08	2.69	29.32	3.04	13	15
Michigan	1.67	0.97	30.55	2.29	2.46	2.02	31.87	2.79	14	22
Minnesota	1.97	0.70	23.69	2.08	2.81	1.48	28.94	2.72	20	26
Mississippi	—	—	8.36	0.38	2.02	0.85	23.09	2.03	50	42
Missouri	1.72	0.95	22.32	1.93	1.93	1.40	27.05	2.25	28	37
Montana	1.77	0.63	28.80	2.21	2.64	1.40	39.00	3.09	16	13
Nebraska	1.69	0.61	24.14	1.95	2.25	1.19	31.34	2.55	26	30
Nevada	5.68	2.80	35.87	4.65	9.24	5.99	45.34	6.88	1	1
New Hampshire	3.45	0.70	26.66	2.87	7.12	3.63	42.45	5.50	2	2
New Jersey	2.75	1.95	26.99	2.78	2.78	2.97	25.28	2.76	3	23
New Mexico	1.50	1.95	19.40	1.87	2.31	2.35	34.83	2.90	30	19
New York	2.53	2.01	25.91	2.63	2.89	3.04	25.70	2.84	7	20
North Carolina	1.41	0.54	8.40	1.10	2.02	1.61	22.23	2.10	44	40
North Dakota	1.58	0.57	21.87	1.79	2.79	1.10	30.75	2.74	32	25
Ohio	1.65	0.95	25.31	2.04	1.79	1.38	27.82	2.22	23	38
Oklahoma	1.21	0.58	11.89	1.17	1.95	1.01	22.78	2.00	42	43
Oregon	1.73	1.54	20.39	1.96	2.26	3.57	28.94	2.79	25	21
Pennsylvania	1.48	1.14	26.93	2.07	1.83	1.55	29.62	2.35	22	36
Rhode Island	1.87	1.77	27.95	2.40	2.82	3.24	30.51	3.05	12	14
South Carolina	1.52	0.46	8.72	1.15	2.68	1.47	25.07	2.49	43	32
South Dakota	1.68	0.68	17.17	1.65	2.49	1.21	25.07	2.38	34	33
Tennessee	1.00	0.38	11.48	1.03	1.70	0.79	24.12	1.93	46	46
Texas	1.26	0.82	22.17	1.71	1.90	1.41	35.51	2.62	33	29
Utah	1.26	0.70	12.82	1.27	1.41	1.03	20.81	1.69	40	49
Vermont	2.10	1.48	22.29	2.19	4.06	3.40	31.61	3.66	17	4
Virginia	2.07	0.93	16.00	1.81	2.22	1.68	25.58	2.35	31	35
Washington	1.87	1.33	21.30	2.03	2.62	3.36	30.14	2.97	24	16
West Virginia	1.24	0.56	14.28	1.29	1.90	0.68	21.03	1.86	39	47
Wisconsin	2.06	1.01	37.39	2.78	3.06	1.92	40.47	3.42	4	5
Wyoming	2.04	0.66	20.34	1.94	3.11	1.51	40.33	3.37	27	7
District of Columbia	8.13	3.69	28.20	5.56	3.54	6.55	30.28	5.85		
U.S.A.	1.94	1.33	21.92	2.09	2.57	2.29	28.41	2.72		

[One U.S. gallon = 3.785 liters = 0.833 imperial gallon.]

Sources: references 8, 29, 31, 34, 42.

[a] In 1960–62 the drinking age population was taken to be those aged 15+; in 1971–77, those aged 14+.

TABLE 6.--*Ratios of Apparent Consumption of Absolute Alcohol, States to Total U.S., Various Years*[a]

	1960	1962	1965	1968	1970	1972	1975	1978
New England								
Maine	.93	.88	.92	.94	.93	.99	1.00	.97
New Hampshire	1.37	1.38	1.48	1.68	1.90	2.06	2.04	2.01
Vermont	1.04	1.08	1.26	1.42	1.38	1.49	1.38	1.31
Massachusetts	1.13	1.17	1.16	1.17	1.10	1.11	1.13	1.12
Rhode Island	1.15	1.12	1.11	1.19	1.12	1.14	1.15	1.12
Connecticut	1.33	1.26	1.29	1.20	1.10	1.03	.99	.98
Middle Atlantic								
New York	1.27	1.25	1.20	1.20	1.18	1.09	1.03	1.01
New Jersey	1.33	1.36	1.27	1.19	1.15	1.10	1.03	.99
Pennsylvania	1.00	.99	.92	.95	.90	.88	.87	.84
Delaware	1.25	1.21	1.17	1.33	1.26	1.20	1.10	1.08
Maryland	1.22	1.08	1.26	1.21	1.16	1.16	1.16	1.12
District of Columbia	2.72	2.74	2.90	2.68	2.66	2.49	2.22	2.03
East North Central								
Ohio	.99	.96	.97	.93	.87	1.03	.82	.81
Indiana	.74	.77	.75	.75	.73	.72	.72	.77
Illinois	1.17	1.20	1.17	1.16	1.11	1.10	1.10	1.05
Michigan	1.13	1.08	1.11	1.10	1.06	1.05	1.02	1.01
Wisconsin	1.35	1.28	1.31	1.32	1.25	1.28	1.27	1.21
West North Central								
Minnesota	.99	1.00	1.00	1.02	.97	.95	1.00	.99
Iowa	.71	.71	.73	.75	.72	.71	.79	.82
Missouri	.95	.92	.94	.93	.92	.87	.85	.84
North Dakota	.84	.87	.90	.95	.93	1.02	1.01	.99
South Dakota	.78	.78	.73	.83	.78	.82	.84	.88
Nebraska	.93	.93	.91	.97	.96	.95	.93	.94
Kansas	.57	.60	.59	.64	.63	.65	.72	.70
South Atlantic								
Virginia	.89	.85	.89	.92	.92	.85	.87	.85
West Virginia	.63	.63	.62	.65	.65	.66	.68	.67
North Carolina	.51	.54	.58	.69	.70	.73	.76	.79
South Carolina	.52	.57	.74	.85	.88	.93	.87	.95
Georgia	.45	.55	.59	.73	.76	.86	.85	.90
Florida	1.11	1.08	1.15	1.22	1.16	1.23	1.17	1.21
East South Central								
Kentucky	.73	.70	.71	.76	.73	.74	.73	.68
Tennessee	.47	.52	.55	.60	.60	.66	.71	.72
Alabama	.41	.43	.43	.53	.54	.63	.66	.72
Mississippi	—	—	—	.56	.63	.71	.73	.79
West South Central								
Arkansas	.46	.50	.50	.55	.56	.58	.60	.66
Louisiana	1.02	1.06	1.06	.98	.96	.93	.97	.98
Oklahoma	.55	.58	.60	.67	.69	.68	.74	.74
Texas	.80	.82	.85	.90	.88	.91	.94	1.00
Mountain								
Montana	1.06	1.04	1.05	1.07	1.07	1.07	1.10	1.13
Idaho	.73	.74	.77	.80	.81	.92	.89	.95
Wyoming	.96	.87	.93	1.02	1.02	1.08	1.24	1.24
Colorado	.97	.99	1.00	1.05	1.05	1.13	1.20	1.25
New Mexico	.93	.88	.91	1.05	1.01	1.07	1.04	1.07
Arizona	1.03	1.00	.97	1.05	1.08	1.16	1.13	1.21
Utah	.62	.61	.58	.59	.57	.59	.60	.63
Nevada	2.20	2.23	1.97	2.13	2.19	2.35	2.49	2.50
Pacific								
Washington	.96	.98	.99	1.06	1.05	1.03	1.08	1.11
Oregon	.93	.93	.99	1.00	.97	1.01	1.02	1.03
California	1.25	1.26	1.25	1.27	1.22	1.23	1.23	1.27
Alaska	1.35	1.27	1.40	1.38	1.44	1.47	1.51	1.32
Hawaii	—	—	—	1.02	.98	.94	1.17	1.16
U.S.A. Total (gallons)	*2.07*	*2.11*	*2.27*	*2.45*	*2.61*	*2.63*	*2.70*	*2.82*

[One U.S. gallon = 3.785 liters = 0.833 imperial gallon.]

Sources: references 8, 29, 42.

[a] In this and subsequent tables the states are grouped according to the standard regions of the U.S. Census Bureau, except that Delaware, Maryland and the District of Columbia have been moved from the South Atlantic to the Middle Atlantic region.

TABLE 7.—*Apparent Consumption of Absolute Alcohol, in U.S. Gallons per Capita of the Population Aged 14+, and the Percentage Contribution of Each Class of Beverage to the Total, in U.S. Geographic Regions,[a] 1978*

	SPIRITS		WINE		BEER		*Total*
	Absolute Alcohol	*% Contribution*	*Absolute Alcohol*	*% Contribution*	*Absolute Alcohol*	*% Contribution*	*Absolute Alcohol*
New England	1.41	44	0.45	14	1.35	42	3.21
(Minus N.H.)	(1.28)	(42)	(0.44)	(15)	(1.30)	(43)	(3.02)
Middle Atlantic	1.06	40	0.33	12	1.24	47	2.63
East North Central	1.03	40	0.13	5	1.39	54	2.55
West North Central	0.93	38	0.19	8	1.32	54	2.44
South Atlantic	1.25	44	0.29	10	1.28	45	2.82
(Minus D.C.)	(1.21)	(44)	(0.27)	(10)	(1.27)	(46)	(2.75)
East South Central	0.85	42	0.10	5	1.07	53	2.02
West South Central	0.91	35	0.22	8	1.49	57	2.62
Mountain	1.35	40	0.42	12	1.61	48	3.38
(Minus Nev.)	(1.17)	(38)	(0.38)	(12)	(1.56)	(50)	(3.11)
Pacific	1.33	38	0.71	20	1.41	41	3.45
Totals	1.12	40	0.36	12	1.34	48	2.82

[One U.S. gallon = 3.785 liters = 0.833 imperial gallon.]

Sources: references 8, 29, 42.

[a] The standard regions of the U.S. Census Bureau.

TABLE 8.—*Apparent Consumption of Absolute Alcohol per Capita of the Population Aged 14+, 1975–77 (Average), and Selected Demographic Characteristics[a] of States Related to per Capita Consumption*

	Consumption (U.S. Gallons)	*% Catholic (1976)[b]*	*% Fundamentalist or Mormon (1971)[c]*	*% Foreign Stock (1970)[d]*	*% Metro. Residents (1976)[e]*	*% High-School Graduates (1976)[f]*	*Mean Personal Income, State/U.S. (1976)[g]*	*Physicians per Million (1976)[h]*
Maine	2.75	26.7	1.8	19.4	23.3	67.8	83.6	136
New Hampshire	5.50	33.7	0.9	23.2	36.3	70.3	92.7	159
Vermont	3.66	31.8	0.9	18.2	0.0	69.7	85.1	203
Massachusetts	3.04	40.5	0.5	33.3	86.2	72.3	102.2	245
Rhode Island	3.05	65.0	0.5	32.8	92.3	61.7	100.9	195
Connecticut	2.69	43.4	1.0	32.0	88.3	70.3	114.5	224
New York	2.84	34.3	1.2	32.9	88.5	66.2	110.2	226
New Jersey	2.76	37.1	0.9	30.1	92.2	66.4	112.9	177
Pennsylvania	2.35	31.3	1.1	18.1	80.5	64.8	100.4	173
Delaware	2.97	14.4	1.9	11.9	68.9	69.5	113.2	155
Maryland	3.13	19.2	4.4	11.6	85.1	69.3	109.2	271
District of Columbia	5.85	19.0	—	9.7	100.0	65.7	134.3	592
Ohio	2.22	21.8	4.4	12.3	79.9	67.7	99.9	150
Indiana	2.08	13.8	8.4	6.8	67.8	67.0	97.1	117
Illinois	2.96	31.6	6.9	19.8	81.3	66.1	115.4	172
Michigan	2.79	25.4	9.2	19.0	81.4	68.6	108.6	145
Wisconsin	3.42	33.5	6.5	16.9	60.2	70.3	97.7	141
Minnesota	2.72	26.3	6.8	18.6	64.4	72.4	95.5	177
Iowa	2.18	19.4	6.4	10.5	37.4	72.3	100.0	115
Missouri	2.25	16.4	18.8	6.7	63.5	64.1	93.2	155
North Dakota	2.74	27.8	6.0	23.6	22.7	67.6	83.8	118
South Dakota	2.38	20.6	6.9	16.4	14.7	68.9	74.5	98
Nebraska	2.55	20.8	9.6	13.8	44.7	74.3	96.9	138
Kansas	1.95	14.3	8.8	7.8	45.9	73.1	100.8	144
Virginia	2.35	5.6	15.7	5.4	65.6	64.2	97.4	162
West Virginia	1.86	5.7	4.1	4.2	36.4	53.3	83.7	131
North Carolina	2.10	1.6	26.2	1.9	45.3	55.3	84.0	139
South Carolina	2.49	1.9	29.5	1.9	48.3	57.1	79.6	123
Georgia	2.37	3.8	29.5	2.4	56.8	58.7	86.5	136
Florida	3.19	14.0	14.1	18.2	86.0	64.8	94.8	175

[*continued*–

TABLE 8.—*continued*

	Consumption (U.S. Gallons)	% *Catholic* (1976)[b]	% *Fundamentalist or Mormon* (1971)[c]	% *Foreign Stock* (1970)[d]	% *Metro. Residents* (1976)[e]	% *High-School Graduates* (1976)[f]	*Mean Personal Income, State/U.S.* (1976)[g]	*Physicians per Million* (1976)[h]
Kentucky	1.94	10.3	28.9	2.3	45.5	53.3	84.2	128
Tennessee	1.93	2.5	30.1	1.7	63.1	54.9	84.3	147
Alabama	1.93	2.9	31.8	1.9	61.8	55.5	79.3	111
Mississippi	2.03	3.7	31.8	1.4	26.5	52.3	71.0	102
Arkansas	1.66	2.7	24.6	1.9	38.4	56.2	78.8	109
Louisiana	2.63	34.7	17.7	3.8	63.4	58.3	83.6	141
Oklahoma	2.00	4.1	30.4	3.6	55.6	65.6	87.8	121
Texas	2.62	17.7	23.2	10.7	79.1	64.5	96.9	146
Montana	3.09	18.9	7.2	17.6	24.4	72.5	86.9	126
Idaho	2.55	7.9	32.9	10.4	16.8	71.5	88.9	105
Wyoming	3.37	13.2	14.9	11.4	0.0	75.3	104.4	113
Colorado	3.23	16.3	8.1	12.7	80.6	78.1	101.0	198
New Mexico	2.90	36.4	15.7	8.8	33.6	65.7	80.9	146
Arizona	3.15	19.3	13.1	16.8	74.5	72.5	90.3	183
Utah	1.69	4.3	75.9	12.5	78.8	80.2	85.1	163
Nevada	6.88	17.3	13.2	13.9	80.9	75.7	113.9	128
Washington	2.97	13.4	5.9	18.7	71.4	76.3	105.1	178
Oregon	2.79	12.3	8.8	14.1	59.9	75.5	98.3	173
California	3.38	21.5	5.6	25.0	92.8	74.0	111.2	219
Alaska	3.96	13.5	9.4	11.0	43.7	79.6	158.0	116
Hawaii	3.26	24.2	5.9	33.4	80.9	73.0	108.2	174
U.S.	2.72	23.2	—	16.5	73.0	66.6	[$6441]	174

[One U.S. gallon = 3.785 liters = 0.833 imperial gallon.]

Sources: references 8, 11, 14, 27, 29, 33, 42, 43, 44.

[a] These characteristics were selected from a larger pool of variables that had been examined in relation to consumption in 1974. Among the variables not included in this table are percentages of the population that were (*1*) Black, (*2*) Hispanic and (*3*) disabled; percentages of families living in (*4*) poverty and (*5*) owner-occupied homes; (*6*) total hospital beds and (*7*) short-term hospital beds per million population; (*8*) density of population; and (*9*) ratio of persons in prisons to those in mental hospitals. These were not found to be monotonically (if there was any relationship) related to per capita consumption (linear correlation $<.50$) or were very strongly related to one of the characteristics listed in the table.

[b] Percentage of Roman Catholics in total population as of 1 January 1976. Data for D.C. include suburban counties of the D.C. metropolitan area in Maryland and Virginia. Source: reference 27.

[c] Percentage of Protestant, Catholic or Mormon church members who were members of "Bible Belt" or Mormon (Latter Day Saints) churches in 1971. Church membership of 53 Protestant, Catholic and Mormon churches, or very closely related groups of churches, were presented by Johnson et al. (14). Heatwole (11) delineated 24 of these as Bible Belt (i.e., claim literal interpretation of the Bible). The percentages of members of either Mormon churches or churches delineated by Heatwole as Bible Belt churches and containing 400,000 or more members were used by Wohlenberg (43) as a rough measure of the strength of sentiment against the Equal Rights Amendment (ERA) based on religious grounds. This measure appeared to us as being a fairly good measure of "dry" sentiment based on religious grounds, regardless of how well it correlated with opposition to the ERA. Our analysis of this measure in relation to per capita consumption of absolute alcohol in 1974 was concordant with this hypothesis. The largest Bible Belt churches or closely related group of churches and their memberships (in thousands) were Southern Baptist Convention, 14,489; Lutheran Church–Missouri Synod, 3,010; Christian Churches (previously called the Disciples of Christ) and the Churches of Christ, 995; Church of the Nazarene, 870; and Seventh Day Adventists, 536.

[d] Percentage of the population who had been born, or whose fathers or mothers had been born, outside of the U.S. Source of data: reference 33.

[e] Percentage of the population residing in Standard Metropolitan Statistical Areas, 1976. Source of data: reference 33.

[f] Percentage of the population aged 18+ who were high-school graduates, 1976. Source of data: reference 33.

[g] Per capita personal income in 1976: Ratio of each state to the U.S. Source of data: reference 33.

[h] Number of active physicians per million population, 1976. Source of data: reference 33.

TABLE 9.—*Estimated Out-of-State Tourist Dollar Expenditures per Capita of the Population Aged 14+ and Ratios of Out-of-State Tourist Expenditures to Total Personal Income, and Respective Ratios of States to Total U.S., States Arranged by Region, 1976*

	Out-of-State Tourist Expenditures (per Capita 14+)		*Tourist Exp./Total Personal Income*	
	In States	*State/U.S.*[a]	*In States*	*State/U.S.*[b]
Maine	1084	1.70	.156	2.02
New Hampshire	1082	1.70	.138	1.79
Vermont	1369	2.15	.194	2.52
Massachusetts	569	0.89	.068	0.88
Rhode Island (1977)	334	0.52	.039	0.51
Connecticut	409	0.64	.044	0.57
New York	451	0.71	.051	0.66
New Jersey	540	0.85	.058	0.75
Pennsylvania	502	0.79	.062	0.80
Delaware	732	1.15	.080	1.03
Maryland	530	0.83	.058	0.76
Ohio	386	0.60	.046	0.60
Indiana	394	0.62	.048	0.62
Illinois (1975)	432	0.68	.049	0.64
Michigan	547	0.86	.062	0.80
Wisconsin	673	1.06	.085	1.11
Minnesota	950	1.49	.118	1.53
Iowa	421	0.66	.054	0.70
Missouri	666	1.04	.088	1.14
North Dakota	773	1.21	.103	1.34
South Dakota	784	1.23	.120	1.56
Nebraska	597	0.94	.077	1.00
Kansas	539	0.84	.066	0.85
Virginia	560	0.88	.069	0.89
West Virginia	541	0.85	.077	1.00
North Carolina	523	0.82	.074	0.96
South Carolina	792	1.24	.115	1.50
Georgia	611	0.96	.084	1.09
Florida	1392	2.18	.183	2.37
Kentucky	568	0.89	.081	1.05
Tennessee	548	0.86	.080	1.03
Alabama	358	0.56	.053	0.69
Mississippi	486	0.76	.079	1.03
Arkansas	613	0.96	.096	1.24
Louisiana	623	0.98	.086	1.12
Oklahoma	601	0.94	.082	1.06
Texas (1977)	614	0.96	.068	0.88
Montana	1065	1.67	.144	1.87
Idaho	864	1.35	.113	1.46
Wyoming	1413	2.22	.159	2.06
Colorado	1107	1.74	.130	1.69
New Mexico	1014	1.59	.142	1.84
Arizona	1100	1.72	.142	1.84
Utah	1048	1.64	.139	1.80
Nevada	2772	4.34	.290	3.76
Washington	745	1.17	.084	1.09
Oregon	822	1.29	.100	1.30
California	736	1.15	.080	1.03
Alaska	1947	3.05	.136	1.76
Hawaii	1788	2.80	.194	2.51

Sources: references 8, 29, 42, 44.

[a] Total U.S. (excluding expenditures in [illegible]strict of Columbia) = $638.

[b] Ratio for total U.S. (excluding ex[illegible]s in the District of Columbia) = .077.

Note: In states with high out-of-state tourist expenditures, large percentages of alcoholic beverages are purchased by out-of-staters. It is possible that people may enter some states specifically for alcohol. A comparison of two states provides a clue: Vermont, with a per-capita out-of-state tourist expenditure of $1369 and a tourist expenditure/total personal income ratio of .194, has an apparent mean consumption of absolute alcohol of 3.66 gallons, while New Hampshire, with a per-capita out-of-state tourist expenditure of only $1082 and a tourist expenditure/total personal income ratio of .138, has a mean consumption of 5.50 gallons. Thus, purchase of alcoholic beverages in Vermont by out-of-staters is apparently part of regular tourism, while in New Hampshire much of the sales of alcoholic beverages to out-of-staters are to people entering the state specifically to buy alcoholic beverages (most presumably from New York and Massachusetts and because of cheaper prices).

TABLE 10.—*Expenditures for Alcoholic Beverages and Other Personal Consumption Expenditures, U.S.A., 1936–77 (Selected Years)*

		Expenditures for Alcoholic Beverages				Other Expenditures (Billion $)		
	All Personal Consumption Expenditures (Billion $)	*Total* (Billion $)	*Per Capita 15+* ($)	*% of Personal Consumption Expenditures*	*% for Taxes*	*Food*	*Tobacco*	*Recreation*
1936	62.6	3.2	33.4	5.1	28.0	15.2	1.5	3.0
1940	71.9	3.6	36.5	5.0	29.5	16.7	1.9	3.8
1945	121.7	7.5	75.6	6.2	35.1	34.1	3.0	6.1
1950	194.0	7.9	71.5	4.1	37.1	51.0	4.4	10.7
1952–54	228.5	8.7	77.3	3.8	41.9	62.9	5.2	11.8
1960–62	340.1	10.2	81.0	3.0	45.5	72.3	7.5	20.5
1965–67	463.7	13.7	100.8	2.9	44.1	90.6	8.8	28.6
1970–72	671.2	20.0	130.6	2.8	41.8	124.2	11.9	43.9
			(*14+*)					
1975	979.1	24.9	152.1	2.5	38.9	184.7	14.7	66.5
1976	1090.2	26.6	159.9	2.4	36.7	199.1	16.2	73.0
1977	1206.5	28.1	166.4	2.3	—	217.0	16.5	81.2

Sources: references 9, 31, 34, 38.

TABLE 11.—*Seizures and Arrests for Liquor Law Violations, U.S.A., 1950, and 1960–77*

Fiscal Year	*Stills Seized (Number)*	*Distilled Spirits Seized (Gallons)*	*Mash Seized (Gallons)*	*Arrests Made*[a]	*Fiscal Year*	*Stills Seized (Number)*	*Distilled Spirits Seized (Gallons)*	*Mash Seized (Gallons)*	*Arrests Made*[a]
1950	10,030	140,600	4,892,608	10,236	1969	4,362	94,894	1,964,672	4,135
1960	8,290	196,581	4,274,365	10,376	1970	5,228	86,416	1,956,170	3,321
1961	6,826	153,929	3,669,518	9,503	1971	3,327	79,271	1,387,986	3,222
1962	6,886	174,572	3,424,472	9,126	1972	2,981	68,538	1,238,917	3,191
1963	6,213	149,940	3,092,617	8,507	1973	2,589	58,920	1,121,537	2,206
1964	6,837	147,312	3,123,783	8,198	1974	1,813	39,051	684,666	1,602
1965	7,432	156,544	3,637,881	7,426	1975	899	16,046	283,043	1,071
1966	7,685	153,062	3,664,880	6,880	1976	609	11,233	182,773	671
1967	6,608	131,800	3,125,442	6,507	1977	481	6,776	146,058	365
1968	5,899	112,504	2,697,345	5,338					

Source: reference 30.

[a] 1969 and 1970 include arrests for tobacco violations; 1971–75 include arrests for tobacco and firearms violations.

TABLE 12.—*Percentages of the Population Aged 14+, Apparent Legal Consumption of Distilled Spirits and Seizures of Illegal Stills and Mash, in Three Groups of States, U.S.A., 1977*

	Alabama Georgia North Carolina Virginia	*Mississippi South Carolina Tennessee*	*All Other States*[a]
Population aged 14+	8.8	4.3	86.8
Apparent legal consumption of spirits	7.8	3.6	88.6
Seizures of stills	79.2	15.6	5.2
Seizures of mash	84.1	12.8	3.1

Source: reference 30.

[a] Includes the District of Columbia.

TABLE 13.—*Apparent Consumption of Distilled Spirits, Wine and Beer in 27 Countries, in Liters per Capita of the Population Aged 15+, and Total Consumption of Absolute Alcohol in Liters*[a]

Rank	Country	Year	Distilled Spirits		Wine		Beer		Total	
			Beverage	Absolute Alcohol	Beverage	Absolute Alcohol	Beverage	Absolute Alcohol	Absolute (per 15+)	Alcohol (per cap.)
1.	Portugal	1974	(4.55)[b]	1.73	166.43	19.97	41.21	2.06	23.76	17.44
2.	France	1972	8.85	3.05	141.73	15.43	76.23[c]	3.77	22.25	16.80
3.	Italy	1973	5.02	2.51	143.69	14.37	17.96	0.90	17.78	13.45
4.	Switzerland	1971–73	7.12	2.85	58.42	6.45	(108.84)[c]	5.28	14.58	11.17
5.	Spain	1971	10.12	4.05	75.15	8.27	5.06	2.02	14.34	10.80
6.	W. Germany	1974	(9.07)	3.45	29.48	3.10	191.41	7.66	14.21	10.91
7.	Austria	1972	7.94	3.17	44.97	4.72	137.57	6.19	14.08	10.59
8.	Belgium	1973	4.60	2.30	19.94	2.39	185.32[c]	8.15	12.84	9.91
9.	Australia	1972–73	(3.11)	1.77	14.06	1.69	182.23	9.11	12.57	8.93
10.	Hungary	1972	(7.59)	3.80	50.63	5.82	74.68	2.61	12.23	9.50
11.	New Zealand	1972	(3.23)	1.84	11.14	1.33	177.57	8.88	12.05	8.22
12.	Czechoslovakia	1973	8.69	3.48	17.65	2.15	188.33	5.65	11.28	8.70
13.	U.S.A.	1978	10.07	4.33	9.46	1.37	115.50	5.20	10.90	8.36
14.	Canada	1974	(9.61)	3.84	7.57	1.21	114.71	5.73	10.78	7.86
15.	Denmark	1973	4.72	2.00	13.99	2.10	147.23	6.48	10.58	8.12
16.	United Kingdom	1974	(3.53)	2.02	8.80	1.06	147.49	7.37	10.45	7.98
17.	Netherlands	1974	(7.36)	3.68	13.88	1.67	101.35	5.07	10.42	7.75
18.	Ireland	1975	(5.16)	2.96	4.95	0.52	122.92	5.90	9.38	6.44
19.	Soviet Union	1972	(12.50)	4.63	(22.92)	3.43	(26.28)	0.79	8.85[f]	6.39
20.	Poland	1974	10.87	5.43	9.10	1.09	49.05	1.86	8.38	6.17
21.	Finland	1976	10.66	4.05	6.08	0.92	66.61	3.12	8.10	6.11
22.	Sweden	1973	8.45	3.31	9.17	1.13	57.51	2.53	6.97	5.52
23.	Japan	1974	(5.03)[d]	1.67	(21.21)[e]	3.27	44.09	1.76	6.70	5.06
24.	Norway	1974	5.57	2.40	4.21	0.57	57.76	2.61	5.58	4.22
25.	Bahrain	1975	7.31	3.29	2.27	0.27	27.54	1.38	4.94	2.71
26.	Iceland	1973	8.72	3.57	3.21	0.38	22.76	0.45	4.40	2.89
27.	Israel	1974	3.66	1.83	5.58	0.67	15.02	0.75	3.25	2.18

Sources: references 6, 10, 13, 26, 28, 42, 45.

[a] The alcohol content of beverages varies among countries. Calculations for this table are based on the best available information from each country. The order of arrangement is by total absolute alcohol per capita of the population aged 15+. Only countries from which adequate statistics not more than 10 years old are available have been included in this tabulation.

Comparisons between countries must be treated with caution when the time is not the same. Also questionable is the use of the same population base (whether total, age 15 and over, or any other) for all countries. Only the per capita consumption by actual drinkers would give a satisfactory comparison.

[b] Values in parentheses converted from absolute alcohol.

[c] Includes cider. [d] Includes Shochu. [e] Includes saké.

[f] It is estimated that illegally produced *samogon* would increase the total significantly, to about 11.26 liters per capita of the population aged 15+.

TABLE 14.—*Deaths from Alcoholism + Alcoholic Psychoses and from Cirrhosis (per Million Population), by Age, Sex and Race, 1975–77 (Average)*

Alcoholism + Alcoholic Psychoses	White Males	White Females	Nonwhite Males	Nonwhite Females	WM/WF	NM/NF	NM/WM	NF/WF
15–24	4.8	0.6	12.1	4.5	8.0	2.7	2.5	7.5
25–34	11.4	2.2	80.3	21.6	5.2	3.7	7.0	9.8
35–44	37.0	11.2	240.5	61.9	3.3	3.9	6.5	5.5
45–54	77.6	23.9	307.2	75.9	3.2	4.0	4.0	3.2
55–64	103.1	24.5	295.2	51.3	4.2	5.8	2.9	2.1
65+	71.7	10.0	148.8	20.0	7.2	7.4	2.1	2.0
Total, 15+	42.2	10.4	139.6	32.8	4.1	4.3	3.3	3.2
Cirrhosis								
15–24	2.4	1.9	10.3	9.9	1.3	1.0	4.3	5.2
25–34	32.9	13.0	189.3	94.1	2.5	2.0	5.8	7.2
35–44	174.3	78.8	579.9	295.2	2.2	2.0	3.3	3.8
45–54	430.1	204.3	865.4	414.6	2.1	2.1	2.0	2.0
55–64	647.4	286.4	898.3	389.1	2.3	2.3	1.4	1.4
65+	581.8	228.7	443.2	197.7	2.5	2.2	0.8	0.9
Total, 15+	249.5	118.9	373.0	184.3	2.1	2.0	1.5	1.6

Sources: references 31, 35.

TABLE 15.—*Total Numbers of Deaths in 1975–77 Attributed to Alcoholism, Alcoholic Psychoses and Cirrhosis and the Average Yearly Rate of Death from Alcoholism + Alcoholic Psychoses and All Deaths Due to Cirrhosis, by State: White Males (A), White Females (B), Nonwhite Males (C), Nonwhite Females (D)*[a]

	Alcoholism	*Alcoholic Psychoses*	*Average Yearly Rate* (per million)[b]	*Alcoholic Cirrhosis*	*Unspecified Cirrhosis*	*Other Cirrhosis*	*Average Yearly Rate* (per million)[c]	*Summed Population, 3 Years* (thousands)
A. White Males								
Alabama	99	22	41	166	291	41	169	2947
Alaska	26	0	71	31	21	8	164	367
Arizona	116	8	53	279	211	63	239	2317
Arkansas	54	9	32	95	172	27	152	1939
California	862	55	42	4486	1825	1139	342	21,800
Colorado	143	7	53	259	210	48	184	2805
Connecticut	210	11	66	333	433	39	240	3351
Delaware	41	0	72	47	80	20	258	569
District of Columbia	7	2	46	56	38	21	511	225
Florida	361	38	49	976	1336	377	331	8118
Georgia	247	16	66	313	390	91	200	3978
Hawaii	6	1	22	28	34	4	205	321
Idaho	32	5	40	71	53	7	143	918
Illinois	276	20	27	743	1816	252	239	10,852
Indiana	190	15	37	312	585	82	178	5491
Iowa	68	6	23	233	284	46	176	3203
Kansas	98	5	42	159	172	24	144	2464
Kentucky	192	21	63	245	347	76	196	3403
Louisiana	94	13	35	170	356	69	195	3054
Maine	67	5	61	149	145	11	258	1182
Maryland	182	12	52	303	423	102	222	3725
Massachusetts	185	20	32	540	1109	162	283	6392
Michigan	231	26	29	815	1138	368	261	8903
Minnesota	189	21	48	363	296	89	173	4334
Mississippi	66	13	47	99	163	19	166	1687
Missouri	143	11	32	305	484	78	183	4743
Montana	54	5	71	66	64	15	174	832
Nebraska	30	3	20	220	49	22	174	1671
Nevada	71	6	121	142	100	12	399	637
New Hampshire	27	3	33	104	116	13	254	918
New Jersey	111	14	17	673	1149	116	268	7413
New Mexico	212	7	191	151	153	21	284	1145
New York	551	42	34	3056	2071	497	326	17,256
North Carolina	317	29	73	516	430	56	211	4756
North Dakota	30	3	45	77	21	5	140	734
Ohio	247	31	26	787	1175	340	213	10,795
Oklahoma	231	12	86	177	285	49	181	2815
Oregon	107	10	46	408	179	51	253	2521
Pennsylvania	281	31	25	1052	1733	308	254	12,181
Rhode Island	86	6	91	152	136	17	303	1008
South Carolina	98	12	49	178	234	31	200	2220
South Dakota	18	1	25	53	52	13	157	752
Tennessee	159	12	42	262	356	53	167	4019
Texas	303	23	27	798	1374	265	202	12,073
Utah	105	1	84	111	68	9	149	1261
Vermont	18	5	44	49	48	3	189	528
Virginia	193	24	46	367	471	74	192	4739
Washington	208	13	56	423	359	101	225	3927
West Virginia	125	10	67	194	306	30	265	1996
Wisconsin	197	16	43	461	433	86	195	5025
Wyoming	41	4	105	43	31	5	184	431
Totals	8005	685	41	22,096	23,805	5505	244	210,741
B. White Females								
Alabama	20	0	6	64	196	38	91	3282
Alaska	10	0	30	18	9	4	94	329
Arizona	34	2	15	128	135	48	128	2430
Arkansas	11	0	5	21	105	20	67	2175
California	304	7	13	2163	1242	824	184	23,018
Colorado	43	0	15	135	121	56	107	2928
Connecticut	49	2	14	176	196	52	121	3510

[*continued*–

TABLE 15—*continued*

	Alcoholism	*Alcoholic Psychoses*	*Average Yearly Rate* (per million)[b]	*Alcoholic Cirrhosis*	*Unspecified Cirrhosis*	*Other Cirrhosis*	*Average Yearly Rate* (per million)[c]	*Summed Population, 3 Years* (thousands)
B. White Females—*continued*								
Delaware	13	1	23	24	38	23	142	599
District of Columbia	3	0	11	27	19	20	249	264
Florida	149	8	17	525	844	307	185	9066
Georgia	81	1	19	158	217	94	108	4332
Hawaii	1	0	3	18	23	4	154	293
Idaho	15	0	16	37	32	9	84	933
Illinois	61	4	6	289	848	188	116	11,390
Indiana	47	2	8	105	288	69	79	5880
Iowa	19	1	6	51	115	52	64	3425
Kansas	30	0	11	69	120	33	83	2668
Kentucky	35	1	9	70	146	68	75	3791
Louisiana	20	3	7	50	197	48	89	3329
Maine	16	1	13	62	88	18	131	1284
Maryland	45	0	11	142	232	72	112	3987
Massachusetts	57	4	9	239	590	126	139	6848
Michigan	67	0	7	317	574	210	114	9673
Minnesota	37	1	8	135	146	59	73	4631
Mississippi	22	0	12	31	90	13	73	1837
Missouri	29	0	6	113	255	69	84	5218
Montana	10	2	14	29	39	14	95	862
Nebraska	9	1	5	68	34	30	72	1832
Nevada	24	3	41	91	50	11	233	652
New Hampshire	20	1	21	47	75	14	137	990
New Jersey	37	2	5	298	637	143	135	7964
New Mexico	50	1	42	47	68	8	103	1199
New York	161	4	8	1136	1130	431	137	19,680
North Carolina	70	1	14	202	236	57	99	5005
North Dakota	6	0	8	24	9	5	52	734
Ohio	63	4	6	300	647	202	98	11,692
Oklahoma	49	1	16	97	147	34	91	3055
Oregon	35	1	13	159	114	28	108	2789
Pennsylvania	56	3	4	288	777	247	97	13,473
Rhode Island	28	0	25	77	71	14	143	1132
South Carolina	26	0	11	75	118	21	92	2334
South Dakota	3	1	5	6	26	11	56	773
Tennessee	42	1	10	88	201	47	78	4317
Texas	77	3	6	259	714	236	91	13,209
Utah	29	0	22	40	56	17	86	1317
Vermont	10	0	18	22	32	13	118	568
Virginia	47	1	9	164	238	88	95	5133
Washington	56	0	14	180	226	89	120	4130
West Virginia	27	2	13	48	129	39	99	2179
Wisconsin	73	2	14	192	235	75	93	5370
Wyoming	6	1	16	22	20	6	110	437
Totals	2232	73	10	9126	12,895	4404	116	227,946
C. Nonwhite Males								
Alabama	77	6	81	43	73	13	126	1023
Alaska	37	0	446	12	0	8	241	82
Arizona	61	1	365	96	21	10	747	170
Arkansas	20	6	75	26	31	0	164	349
California	196	7	73	77	176	153	328	2764
Colorado	7	0	67	11	5	3	182	105
Connecticut	51	1	253	47	20	4	346	205
Delaware	20	0	251	21	15	14	628	80
District of Columbia	82	6	162	310	134	138	1069	545
Florida	195	13	153	201	129	104	319	1362
Georgia	229	13	175	111	77	52	173	1383
Hawaii	8	1	13	28	43	8	113	696
Idaho	8	0	525	12	2	0	918	15
Illinois	143	15	94	213	372	84	397	1683
Indiana	51	3	145	41	61	14	300	387
Iowa	2	0	46	7	13	0	463	43

[*continued*—

TABLE 15.—*continued*

	Alcoholism	*Alcoholic Psychoses*	*Average Yearly Rate* (per million)[b]	*Alcoholic Cirrhosis*	*Unspecified Cirrhosis*	*Other Cirrhosis*	*Average Yearly Rate* (per million)[c]	*Summed Population, 3 Years* (thousands)
C. Nonwhite Males—*continued*								
Kansas	16	0	112	5	14	2	146	144
Kentucky	39	3	120	23	30	5	165	351
Louisiana	79	13	86	92	99	31	207	1073
Maine	0	0	0	1	0	0	164	6
Maryland	168	8	205	123	110	75	358	860
Massachusetts	24	0	112	20	37	5	289	215
Michigan	103	10	113	198	213	244	653	1002
Minnesota	13	0	128	11	5	4	197	101
Mississippi	57	8	83	30	54	6	115	780
Missouri	59	4	103	56	83	4	233	614
Montana	17	0	700	28	3	1	1400	24
Nebraska	6	0	108	20	6	3	521	56
Nevada	14	0	241	18	9	0	464	58
New Hampshire	0	0	0	0	1	0	163	6
New Jersey	71	16	109	120	171	61	443	794
New Mexico	125	2	1198	50	16	4	660	105
New York	434	24	194	1507	366	235	892	2365
North Carolina	305	18	250	242	100	25	284	1290
North Dakota	8	0	635	16	1	0	1349	12
Ohio	110	6	113	195	125	63	372	1028
Oklahoma	53	3	200	68	62	9	495	281
Oregon	9	0	104	32	11	5	554	87
Pennsylvania	147	5	149	202	196	61	449	1023
Rhode Island	6	1	188	11	1	1	348	37
South Carolina	123	10	153	75	68	14	180	871
South Dakota	16	3	622	20	13	1	1113	30
Tennessee	96	4	149	48	50	17	171	672
Texas	83	10	60	129	139	84	226	1556
Utah	7	0	255	11	1	1	473	27
Vermont	0	0	0	0	0	0	0	3
Virginia	128	9	149	126	93	21	260	922
Washington	42	0	226	45	38	13	518	185
West Virginia	15	1	406	5	23	3	787	39
Wisconsin	34	1	226	33	15	2	323	154
Wyoming	4	1	401	11	0	0	882	12
Totals	3598	232	138	5327	3327	1605	371	27,675
D. Nonwhite Females								
Alabama	37	2	35	26	63	6	91	1111
Alaska	34	0	428	19	3	8	377	79
Arizona	28	0	154	50	14	3	368	182
Arkansas	6	0	13	10	16	7	74	446
California	50	1	17	225	94	82	133	3009
Colorado	3	0	23	11	9	4	186	129
Connecticut	19	0	67	24	11	8	159	270
Delaware	4	0	42	10	7	3	211	95
District of Columbia	11	1	19	156	91	70	501	633
Florida	67	4	47	105	107	65	184	1502
Georgia	73	3	47	97	87	54	148	1609
Hawaii	0	0	0	1	17	4	31	699
Idaho	2	0	164	7	8	0	1230	12
Illinois	32	1	16	99	189	66	173	2047
Indiana	9	0	20	15	42	8	144	451
Iowa	1	0	25	1	4	0	125	40
Kansas	2	0	13	7	10	4	135	156
Kentucky	12	1	37	18	19	6	122	354
Louisiana	33	2	21	34	53	25	93	1202
Maine	1	0	164	1	0	0	164	6
Maryland	37	1	36	66	73	55	186	1041
Massachusetts	3	0	11	14	23	9	176	261
Michigan	21	1	17	120	118	113	275	1276
Minnesota	4	0	50	16	6	1	288	80
Mississippi	4	0	4	14	25	9	51	948

[*continued*—

TABLE 15—*continued*

	Alcoholism	*Alcoholic Psychoses*	*Average Yearly Rate* (per million)[b]	*Alcoholic Cirrhosis*	*Unspecified Cirrhosis*	*Other Cirrhosis*	*Average Yearly Rate* (per million)[c]	*Summed Population, 3 Years* (thousands)
D. Nonwhite Females—*continued*								
Missouri	14	0	21	29	53	13	141	673
Montana	5	0	235	13	5	5	1083	21
Nebraska	2	0	32	12	7	3	355	62
Nevada	2	0	33	8	5	1	229	61
New Hampshire	0	0	0	0	0	1	163	6
New Jersey	15	1	15	59	124	43	215	1050
New Mexico	29	0	191	33	11	1	297	152
New York	141	6	45	651	189	113	295	3227
North Carolina	82	3	53	158	91	31	176	1591
North Dakota	1	0	79	13	1	3	1349	12
Ohio	24	2	21	105	100	54	208	1243
Oklahoma	16	0	48	45	30	8	251	330
Oregon	5	0	58	17	7	4	323	87
Pennsylvania	31	1	24	89	115	41	186	1319
Rhode Island	4	0	117	2	2	2	175	33
South Carolina	31	2	32	56	38	5	98	1014
South Dakota	9	0	327	33	9	1	1564	21
Tennessee	31	0	37	32	27	12	84	844
Texas	16	1	10	64	68	41	98	1751
Utah	5	0	182	7	4	0	400	21
Vermont	0	0	0	0	0	0	0	<1
Virginia	30	1	31	65	75	23	162	1005
Washington	12	0	61	27	23	11	308	198
West Virginia	4	0	73	11	12	2	458	55
Wisconsin	8	1	55	15	12	5	195	163
Wyoming	1	0	64	5	1	2	513	15
Totals	1000	35	32	2701	2098	1035	179	32,593
Total males	11,603	917	52	27,423	27,132	7110	259	238,416
Total females	3232	108	13	11,827	14,993	5439	124	260,539
Total U.S.A.	14,835	1025	32	39,250	42,125	12,549	188	498,955

Sources: references 31, 32, 35.

[a] Mortality includes all ages and age not stated. The population denominators used for computation of rates include only those aged 14+. Our population estimates for each year and each sex–race group were derived in the following manner: the estimate for White males aged 14+ in each state was made by multiplying the total population aged 14+ in each state, obtained from a 1976 Census survey (32), by the percentage of White males aged 14+ in each state. The estimated Census projection of total population aged 14+ in each state in 1977 was provisional and later slightly revised.

[b] Alcoholism + alcoholic psychoses. [c] Total cirrhosis.

Note: The cirrhosis mortality rates are based on total cirrhosis rather than alcoholic cirrhosis because of two findings that confirm our suspicions of extraneous influences on whether a cirrhotic death was reported as being attributable to alcoholism: (*1*) Throughout most of the per-capita consumption of alcohol ranges, there is little systematic change in the percentage of cirrhotic deaths attributable to alcohol. For example, among White males, the percentages of cirrhotic deaths reported as being alcoholic among states with per-capita apparent consumption of absolute alcohol of less than 1.75, 1.75–1.99, 2.00–2.24, 2.25–2.49, 2.50–2.74, 2.75–2.99, 3.00–3.24 and 3.25–3.49 gallons, were 43, 38, 38, 36, 40, 43, 38 and 57, respectively. Only in the states in the 3.25–3.49-gallon category was there any clear difference from the rest; but in these states, only 27% of the cirrhotic deaths were unspecified, compared with 46% in the U.S. as a whole. One would expect a general trend of increasing percentages of cirrhotic deaths reported as due to alcoholism with increasing per-capita consumption of absolute alcohol if that percentage had reflected actual conditions rather than different policies and practices regarding obtaining, reporting and recording such data. (*2*) Within limited ranges of per-capita consumption of absolute alcohol, there are great differences in percentages of cirrhotic deaths attributed to alcoholism. For example, among White males, the proportion of cirrhotic deaths attributed to alcoholism was 32% in Arkansas (mean consumption of 1.66 gallons) and 59% in Utah (mean, 1.70); 29% in Louisiana (mean, 2.63) and 76% in Nebraska (mean, 2.55); 26% in Illinois (mean, 2.96) and 64% in Oregon (mean, 2.80); 30% in Massachusetts (mean, 3.03) and 50% in Rhode Island (mean, 3.07). The range for all states was from 26% in Illinois to 76% in Nebraska. Huge differences among states with only small differences in per-capita consumption also occur among White females and Nonwhite males and females.

To us it appears that extraneous influences, such as practices regarding autopsies, obtaining other information on the deceased, reporting and recording practices, have far more influence on whether a cirrhotic death is labeled alcoholic than whether a cirrhotic death is actually attributable to alcoholism. Thus, we feel that mortality from all cirrhosis deaths is a more appropriate measure of the prevalence of alcoholism that is characterized by prolonged heavy drinking.

TABLE 16.—*Correlations of Weighted and Unweighted and Lagged and Unlagged Data: Apparent per Capita (Aged 14+) Consumption of Absolute Alcohol (1972–74 and 1975–77 Averages) with Mortality (per Million 14+) from Total Cirrhosis and from Alcoholism + Alcoholic Psychoses (1975–77 Average), Unweighted and Weighted for Population Aged 14+, by Race and Sex*

	White Males	White Females	Nonwhite Males	Nonwhite Females
	TOTAL CIRRHOSIS (1975–77)			
Unweighted & Unlagged (1975–77)	50	63	24	10
Unweighted & Lagged (1972–74)	58	67	22	06
Weighted & Unlagged (1975–77)	68	76	31	19
Weighted & Lagged (1972–74)	73	78	41	27
	ALCOHOLISM + ALCOHOLIC PSYCHOSES (1975–77)			
Unweighted & Unlagged (1975–77)	10	21	14	08
Unweighted & Lagged (1972–74)	07	20	11	04
Weighted & Unlagged (1975–77)	−02	30	−07	−03
Weighted & Lagged (1972–74)	−06	26	−03	−01

Sources: references 7, 8, 24, 29, 31, 32, 35, 42.

[a] Decimal points are omitted. States with consumption of 3.50+ gallons of absolute alcohol per capita aged 14+ (Alaska, District of Columbia, Nevada, New Hampshire and Vermont) are excluded because a large share of alcohol purchases are made by out-of-state residents. In the data on mortality the denominator is the population aged 14+ but the deaths include all ages and age not stated.

Note: This table presents correlations between alcohol consumption and selected mortality rates under two sets of contrasted conditions: time lag or no time lag between years of consumption and years of mortality; and weighting or not weighting of data for population aged 14+. It can be seen that (*1*) mortality due to alcoholism and alcoholic psychoses is related to consumption only among White females; (*2*) correlations between consumption and cirrhosis mortality are always higher when the data are weighted for population at risk; (*3*) the correlations between consumption and cirrhosis mortality are highest for White females, followed by White males, Nonwhite males and Nonwhite females; (*4*) correlations of lagged data are higher than those of unlagged data among Whites, regardless of weighting, and among Nonwhites when the data are weighted; and (*5*) weighting is more important than lagging.

A comparison of correlations between consumption and mortality when consumption is unsquared and squared showed hardly any differences. Accordingly, only correlations for unsquared consumptions are presented. Use of consumption squared was suggested by Skog (24). The idea of using lagged as well as unlagged years of consumption has been suggested by both Skog (24) and Wolfgang Schmidt (Addiction Research Foundation, Toronto; personal communication).

The age distributions of White males and females (aged 15+) among blocks of states aggregated into ¼-gallon consumption groups (e.g., 2.00 to 2.24 gallons of absolute alcohol per capita) are very similar. Therefore, mortality differences among Whites and any resulting correlations cannot be attributed to different age distributions.

TABLE 17.—*Correlations According to Degrees of Time Lag between Years of Consumption and Years of Mortality: Apparent per Capita (Aged 14+) Consumption of Absolute Alcohol with Mortality (per Million Aged 14+) from Total Cirrhosis, by Race and Sex (Weighted for Population Aged 14+); Selected Combinations of Years of Consumption and Years of Mortality*[a]

Absolute Alcohol Consumption	*Cirrhosis Mortality*	*White Males*	*White Females*	*Nonwhite Males*	*Nonwhite Females*
1972	1974	73	81	43	36
1973	1974	71	80	42	36
1974	1974	71	80	39	31
1972	1975	73	79	40	29
1973	1975	72	78	40	28
1974	1975	71	79	35	24
1975	1975	68	77	32	21
1972	1976	74	76	42	31
1973	1976	73	75	42	32
1974	1976	71	75	38	27
1975	1976	68	73	34	25
1976	1976	67	73	31	22
1972	1977	72	76	43	23
1973	1977	70	74	43	22
1974	1977	70	74	38	18
1975	1977	67	72	35	15
1976	1977	66	72	31	14
1977	1977	66	73	27	11
1972–74	1974	72	81	42	34
1972–74	1975	72	79	38	27
1972–74	1976	73	76	41	30
1972–74	1977	71	75	42	21
1972–74	1977	71	75	42	21
1975–77	1977	67	73	31	13
1972	1975–77	74	79	42	29
1973	1975–77	73	77	42	28
1974	1975–77	72	78	38	24
1975	1975–77	69	76	34	21
1972–74	1975–77	73	78	41	27
1975–77	1975–77	68	76	31	19

Sources: references 7, 8, 24, 29, 31, 32, 35, 42.

[a] Decimal points are omitted. States with consumption of 3.50+ gallons of absolute alcohol per capita (Alaska, District of Columbia, Nevada, New Hampshire and Vermont) are excluded from the data base because a large share of alcohol purchases are made by out-of-state residents.

Note: This table examines the effect of time lag between the years of consumption and years of cirrhosis mortality on correlations between these two types of variables. On the whole, the greater the time lag the higher the correlations, especially among Nonwhites. Since the data presented here are, at maximum, time-lagged for 6 years, no statements can be made about such data lagged for more than 6 years. Presumably there is a peak in correlations at some further degree of lag, after which correlations begin to decrease with more years of lag.

The age distributions of White males and females (aged 15+) among blocks of states aggregated into ¼-gallon consumption groups (e.g., 2.00 to 2.24 gallons of absolute alcohol per capita) are very similar. Therefore, mortality differences among Whites and any resulting correlations cannot be attributed to different age distributions.

TABLE 18.—*Correlations of Apparent per Capita (Aged 14+) Consumption of Absolute Alcohol with Mortality (per Million Aged 14+) from Total Cirrhosis, by Race and Sex, Single Years versus Three-Year Averages, Weighted (W) and Unweighted (U) for Population Aged 14+*[a]

Years of Alcohol Consumption	*Years of Cirrhosis Mortality*	*White Males*		*White Females*		*Nonwhite Males*		*Nonwhite Females*	
		W	*U*	*W*	*U*	*W*	*U*	*W*	*U*
1972	1976	74	66	76	55	42	23	31	05
1972	1975–77	74	61	79	67	42	22	29	05
1973	1976	73	62	75	57	42	24	32	07
1973	1975–77	73	57	77	67	42	22	28	06
1974	1976	71	60	75	56	38	25	27	07
1974	1975–77	72	55	78	65	38	22	24	06
1972–74	1976	73	63	76	56	41	24	30	06
1972–74	1975–77	73	58	78	67	41	22	27	06
1975	1976	68	56	73	55	34	26	25	09
1975	1975–77	69	52	76	64	34	22	21	06
1974	1974	71	54	80	68	39	22	31	07
1975	1975	68	44	77	63	32	14	21	08
1976	1976	67	54	73	55	31	29	22	12
1977	1977	66	48	73	57	27	21	11	09
1975–77	1975–77	68	50	76	63	31	24	19	10

Sources: references 7, 8, 24, 29, 31, 32, 35, 42.

[a] Decimal points are omitted. States with consumption of 3.50+ gallons of absolute alcohol per capita (Alaska, District of Columbia, Nevada, New Hampshire and Vermont) are excluded from the data base because a large share of alcohol purchases are made by out-of-state residents.

Note: This table compares correlations for single years and for 3-year averages of cirrhosis mortality with consumption under two sets of contrasting conditions: data weighted or not weighted for population 14+, and lagged or not lagged over time. When the data are weighted the correlations using the 3-year average are about the same as for single years among White males, slightly higher for using the 3-year average among White females and slightly higher using data from a single year among Nonwhite females. When unweighted data are used, correlations are slightly higher using data from a single year among White and Nonwhite males and Nonwhite females and somewhat higher using the 3-year average among White females. The issue of weighted vs unweighted data is far more important than the issue of single year vs 3-year averages. In fact, with data weighted for population at risk, one need not be concerned if the data are from a single year or a 3-year average.

The age distributions of White males and females (aged 15+) among blocks of states aggregated into ¼-gallon consumption groups (e.g., 2.00 to 2.24 gallons of absolute alcohol per capita) are very similar. Therefore, mortality differences among Whites and any resulting correlations cannot be attributed to different age distributions.

TABLE 19.—*Mortality[a] from Total Cirrhosis and Alcoholism + Alcoholic Psychoses in States Grouped by Per Capita Consumption of Absolute Alcohol (U.S. Gallons), 1975–77 (Average), and Percentages of Persons Aged 14+, by Race and Sex*

Consumption	*White Males*	*White Females*	*Nonwhite Males*	*Nonwhite Females*	% POPULATION 14+[b] *WM*	*WF*	*NM*	*NF*
			TOTAL CIRRHOSIS					
<1.75	151	74	186	93	1.5	1.5	1.4	1.5
1.75–1.99	184	84	159	104	7.0	7.1	8.1	7.7
2.00–2.24	196	89	293	161	13.6	13.6	13.8	14.1
2.25–2.49	218	95	263	156	13.5	13.7	17.5	17.3
2.50–2.74	196	89	240	119	12.4	12.4	10.9	10.4
2.75–2.99	280	126	642	251	25.5	25.8	22.8	25.0
3.00–3.24	268	145	360	201	12.0	12.0	10.0	9.7
3.25–3.49	311	166	288	119	13.1	12.8	13.1	11.9
3.50+	285	161	908	465	1.3	1.2	2.5	2.4
U.S.A.	244	116	371	179				
			ALCOHOLISM + ALCOHOLIC PSYCHOSES					
<1.75	53	12	89	23				
1.75–1.99	50	10	115	35				
2.00–2.24	43	9	162	31				
2.25–2.49	38	8	154	34				
2.50–2.74	37	8	90	20				
2.75–2.99	36	9	161	33				
3.00–3.24	48	14	181	48				
3.25–3.49	43	14	70	16				
3.50+	62	25	200	61				
U.S.A.	41	10	138	32				

[One U.S. gallon = 3.785 liters = 0.833 imperial gallon.]

Sources: references 8, 29, 31, 32, 35, 42.

[a] Mortality (per million) includes all ages and age not stated. The population denominators used for computation of rates include only those aged 14+. Only 0.03% of the cirrhosis deaths and an even smaller percentage of deaths from alcoholism + alcoholic psychoses occurred in persons under age 15.

[b] Percentages of the U.S. population of White and Nonwhite males and females aged 14+ in blocks of states aggregated according to alcohol consumption (e.g., the states with a 3-year average consumption of <1.75 gallons of absolute alcohol contain 1.5% of the U.S. White males aged 14+).

Note: The differences in age distributions of White males and females (aged 15+) between the nine aggregated blocks of states are very similar. Therefore, mortality differences among the Whites cannot be attributed to different age distributions.

TABLE 20.—*Admissions with "Alcohol Disorders" as Percentages of Total Admissions to State and County Mental Hospitals, Males and Females, 1970*[a]

MALES		FEMALES	
State	*% Alcohol Disorders*	*State*	*% Alcohol Disorders*
Washington	5.5	Hawaii	2.1
Arkansas	6.1	North Dakota	2.1
North Dakota	8.5	Washington	2.1
Arizona	9.3	Arkansas	2.4
Florida	11.6	Arizona	3.1
Hawaii	11.7	Florida	4.7
District of Columbia	11.8	Pennsylvania	5.0
Pennsylvania	16.2	West Virginia	5.0
Idaho	18.9	District of Columbia	5.3
Utah	18.9	Alabama	5.4
Alabama	19.0	Indiana	5.5
South Carolina	21.6	Tennessee	5.7
New Mexico	22.4	Idaho	5.9
Kansas	25.0	Utah	6.0
New Jersey	25.2	Illinois	6.1
New Hampshire	25.3	New Mexico	6.1
New York	25.4	New York	6.3
California	27.4	Vermont	6.4
Ohio	27.4	Kansas	7.0
Oregon	28.7	Iowa	7.2
Iowa	29.5	Ohio	7.4
Nevada	29.8	New Jersey	7.7
Illinois	30.0	Georgia	8.1
West Virginia	30.6	Maine	8.3
Georgia	30.7	Louisiana	8.8
South Dakota	30.8	Mississippi	8.8
Vermont	30.8	Oregon	8.8
Colorado	32.5	South Carolina	9.0
Indiana	32.7	California	9.6
Delaware	33.0	Missouri	9.6
Tennessee	33.7	New Hampshire	9.6
Mississippi	33.8	Oklahoma	9.6
Maine	34.2	Colorado	9.7
Texas	36.6	South Dakota	9.8
Oklahoma	37.6	Texas	10.8
Louisiana	39.3	Wisconsin	11.4
Wyoming	41.1	North Carolina	11.7
Wisconsin	42.2	Delaware	12.3
Connecticut	44.8	Nebraska	13.4
North Carolina	45.0	Nevada	16.8
Missouri	45.3	Connecticut	17.5
Nebraska	48.2	Wyoming	18.3
Maryland	60.4	Maryland	21.8
Rhode Island	71.5	Rhode Island	43.1
U.S.A.	32.1	U.S.A.	8.4

Source: reference 37.

[a] Data source did not include information for Alaska, Kentucky, Massachusetts, Michigan, Minnesota, Montana and Virginia.

Note: The data presented in this table are not meant to provide substantively valid information. On the contrary, it would appear that practices of reporting and recording diagnoses are far more important than factual information in determining these percentages. They are also quite at odds with death rates from liver cirrhosis and alcoholism + alcoholic psychoses (Table 15). No pattern can be discerned. It should be noted that the average length of stay in hospitals by patients with "alcohol disorders" is six days, indicating that the majority of those admissions were for acute symptoms and the treatment was for "drying out."

TABLE 21.—*Total Admissions, Alcoholic Admissions[a] as Percentages of Total Admissions, Rates of Alcoholic Admissions per 100,000 Population Aged 18+, and Percentage Distributions and Sex Ratios of Alcoholic Admissions, by Type of Facility, U.S.A., 1975*

Facilities	Total Admissions		% Alcoholic Admissions		Rate of Alcoholic Admissions		% Distribution of Alcoholic Admissions		Male : Female Ratio of Alcoholic Admissions
	M	F	M	F	M	F	M	F	
Total—all facilities	1,805,588	1,768,881	17.7	3.6	457.6	83.4	100.0	100.0	5.0
State & county mental hospitals	248,937	136,300	35.3	13.7	125.8	24.2	27.5	29.1	4.7
Private mental hospitals (inpatient)	55,706	74,126	14.5	3.7	11.6	3.6	2.5	4.3	2.9
Veterans Administration hospitals[b]	215,640	3,121	40.9	12.3	125.8	0.5	27.5	0.6	231.5
General hospitals—public[b]	70,910	68,442	15.5	3.8	15.7	3.4	3.4	4.1	4.2
General hospitals—nonpublic[b]	140,659	235,526	10.7	3.1	21.4	9.2	4.7	11.4	2.0
Outpatient psychiatric services	634,355	771,710	6.4	1.6	57.7	16.6	12.6	19.8	3.2
Community mental health centers[c]	439,381	479,656	15.9	4.5	99.6	25.6	21.8	30.7	3.5

Sources: references 31, 36.

[a] With primary diagnosis of alcoholism (alcohol addiction, organic brain syndrome associated with alcoholism, episodic excessive drinking, habitual excessive drinking, other alcoholism).

[b] Discharges from psychiatric inpatient units.

[c] Persons admitted and discharged more than once during a reporting year are counted only once.

TABLE 22.—*Percentages of State Populations Residing in Legally "Dry" Areas, 1978*[a]

Alabama	26.6	Nebraska	0.1
Arkansas	10.3	North Carolina	4.3
Florida	1.4	South Dakota	1.5
Georgia	22.5	Tennessee	27.2
Kansas	2.0	Texas	10.0
Kentucky	43.6	Virginia	3.3
Louisiana	1.4	West Virginia	2.1
Mississippi	28.5	U.S.A.	3.5

Sources: references 8, 31. [Reprinted by permission of the Distilled Spirits Council of the United States, Inc.]

[a] Legally "dry" means that the sale of distilled spirits for off- and on-premise consumption is prohibited.

TABLE 23.—*Rates of On-Premise, On- and Off-Premise and Off-Premise Outlets for the Sale of Distilled Spirits, per Million of the Population Aged 14+, in License and Monopoly States, 1975 and 1978*

	1975					1978				
	On Premise	*On & Off Premise*	*Off Premise*	*Total*	*Population, 1000s, 14+*	*On Premise*	*On & Off Premise*	*Off Premise*	*Total*	*Population, 1000s, 14+*
License States										
Alaska	2358	0	1391	3749	271	2362	0	1451	3812	293
Arizona	467	782	657	1906	1654	633	782	663	2079	1800
Arkansas	208	0	395	603	1617	246	0	380	626	1702
California	780	0	657	1437	16,465	756	0	619	1376	17,693
Colorado	1336	0	575	1911	1942	1484	0	550	2034	2088
Connecticut	1193	0	851	2044	2414	1243	0	815	2058	2493
Delaware	674	446	654	1774	442	762	424	638	1823	458
District of Columbia	1168	0	677	1845	560	1412	0	691	2104	541
Florida	114	719	74	908	6552	352	529	72	952	6972
Georgia	334	0	355	689	3695	346	0	372	717	3896
Hawaii	1292	0	946	2239	654	1388	0	1006	2394	691
Illinois	0	2379	0	2379	8567	0	2909	0	2909	8801
Indiana	292	829	438	1559	4032	285	824	423	1532	4171
Kansas	505	0	666	1170	1779	522	0	643	1165	1869
Kentucky	387	42	322	751	2585	392	36	318	746	2717
Louisiana	0	2017	691	2708	2827	2090	0	805	2895	2997
Maryland	143	919	311	1373	3157	162	946	300	1408	3287
Massachusetts	1253	0	328	1581	4536	1269	0	364	1634	4646
Minnesota[a]	596	339	217	1152	2945	668	342	216	1226	3150
Mississippi[b]	220	0	323	543	1724	323	0	342	666	1794
Missouri	850	0	819	1669	3706	0	854	850	1704	3857
Nebraska	264	1427	473	2165	1191	297	1502	433	2232	1233
Nevada	2949	1463	1269	5682	449	2023	1272	1527	4823	514
New Jersey	240	1495	350	2085	5689	261	1435	338	2034	5831
New Mexico	165	1417	108	1691	841	176	1340	92	1608	913
New York[c]	1660	0	334	1994	14,114	1646	0	323	1969	14,214
North Dakota	0	2098	141	2240	488	155	1933	179	2267	509
Oklahoma	0	0	402	402	2114	0	0	355	355	2269
Rhode Island	2089	0	440	2529	730	1937	0	410	2347	749
South Carolina	454	0	523	977	2108	525	0	537	1062	2232
South Dakota	1444	0	1092	2537	520	1531	0	1095	2626	537
Tennessee	149	0	152	301	3214	218	0	161	379	3418
Texas	454	0	325	779	9267	545		320	865	9972
Wisconsin	3623	0	410	4033	3514	3486	0	442	3928	3686
Wyoming[b]	496	2122	269	2888	286	477	1871	25	2372	325
Total, License States	735	457	407	1599	116,649	781	454	405	1640	122,318
Monopoly States										
Alabama	591	0	45	636	2735	665	0	45	709	2895
Idaho	1333	0	208	1540	607	1174	0	198	1372	661
Iowa	1881	0	93	1974	2210	1910	0	93	2003	2287
Maine	1057	0	99	1156	809	1158	0	83	1241	854
Michigan	1235	0	413	1648	6881	1245	0	470	1715	7120
Montana	2540	0	257	2796	569	0	2465	229	2694	611
New Hampshire	1023	0	105	1127	621	1418	0	104	1522	684
North Carolina	0	0	80	80	4152	0	0	80	80	4355
Ohio	2034	0	49	2082	8195	1198	531	49	1779	8411
Oregon	613	0	107	720	1783	601	0	100	701	1935
Pennsylvania	2125	0	81	2206	9275	2063	0	77	2139	9422
Utah	276	0	130	406	855	118	173	117	408	925
Vermont	3223	0	173	3396	359	2708	0	166	2874	380
Virginia	410	0	65	275	3839	422	0	62	484	4073
Washington	616	0	118	734	2749	686	0	112	798	2982
West Virginia	713	0	122	835	1395	761	0	113	874	1456
Total, Monopoly States	1284	0	131	1415	47,034	1113	125	137	1375	49,051
TOTAL	892	326	328	1546	163,683	876	360	328	1564	171,369

[*continued*—

TABLE 23.—*continued*

SUMMARY TABLE	1975 *Total On Premise*[d]	1975 *Total Off Premise*[d]	1978 *Total On Premise*[d]	1978 *Total Off Premise*[d]
License States	1192	864	1235	859
Monopoly States	1284	131	1238	262
Ratio	0.93	6.60	1.00	3.28

Sources: references 8, 31.

[a] Data for 1974 instead of 1975.

[b] State has monopoly on wholesale, but not retail, distribution.

[c] Data for 1977 instead of 1978.

[d] Includes on & off premise outlets.

Note: Many states' regulations make a sharp distinction between alcoholic beverages of higher and lower alcohol content. Some states are more permissive about beverages of low alcohol content; in others, county or municipal governments are given much of the authority over regulations concerning their sale. The definition of low alcohol content ranges from beer containing 3.2% alcohol to wine containing 21% alcohol. Thus, for many states there are no reliable estimates on the number of outlets selling beer and wine—only the data on distilled spirits are reliable.

The increase from 0 to 125 combined on- and off-premise liquor outlets in monopoly states between 1975 and 1978 is due to some states' permitting bar and restaurant licensees to play two quite separate roles: independent entrepreneur for sale of spirits by the drink and state employee for sale of spirits by the bottle.

States also differ substantially in the degree of control they cede to local authorities over the sale of distilled spirits. However, there is a tendency for states to insist on certain minimum regulations, and then allow local authorities to make the regulations more strict. Hence, according to state law, the number of licensees permitted to sell spirits for both on- and off-premise consumption may be considerably higher than the number permitted according to local regulations.

Furthermore, some licensees who are permitted by both state and local laws to sell spirits for both on- and off-premise consumption may prefer to sell spirits only for on-premise consumption (e.g., restaurant owners who do not want their personnel to be diverted from their main functions as waiters, etc.) or only for off-premise consumption (e.g., liquor-store owners who do not have the capital or personnel to open a bar).

The most extreme example of state permissiveness regarding licensees to sell spirits for both on- and off-premise consumption is Illinois. In that state, all state licenses enable the possessor to sell spirits for both on- and off-premise consumption. In practice, however, because of either stricter local regulations or private business decisions, many of these licenses are used only for off- or on-premise consumption.

A full discussion of the interrelationships of the many alcoholic beverage control laws to one another, to per-capita consumption, to demographic variables and to selected cause-of-death rates is being prepared (HYMAN, M. M. and DRIVER, R. J.). Following is a brief summary of the findings that are relevant to this table.

It can be observed in the Summary Table that, whereas there is little difference in the rate of on-premise outlets between monopoly and license states, in 1975 license states had six to seven times as many off-premise outlets as did monopoly states. Because of the rise of dual functionaries in the liquor business (i.e., private entrepreneurs for on-premise consumption and state employees for off-premise consumption), by 1978 this difference had dropped to license states' having three to four times as many off-premise outlets as monopoly states.

The relatively small number of off-premise outlets in monopoly states would seem to make good economic sense, since state officials would not encourage competition with their own stores (though in lightly populated areas, or in states with relatively few existing licenses for the off-premise sale of spirits, it might be economical for the state to make on-premise entrepreneurs assume a second role as state employees for off-premise sales).

Relationship between Monopoly versus License States and Number of On-Premise and Off-Premise Outlets. Results of an analysis of 1974 data (Hyman and Driver) suggest why there are few differences in the per-capita rates of on-premise outlets in monopoly and license states.

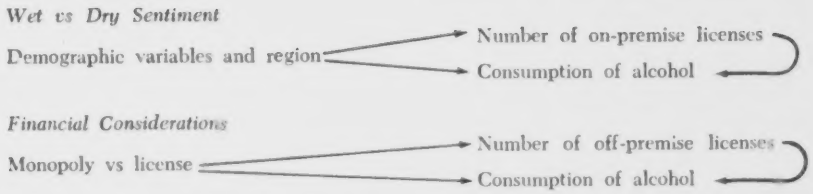
Regulation of alcohol sales, advertising, etc., because of antialcohol ("dry") sentiment is only weakly related to regulating alcohol sales for the purpose of protecting and enhancing state revenues. And it appears that dry sentiment has a greater influence on the number of on-premise liquor licenses, but financial considerations have a greater influence on the number of off-premise liquor licenses.

As a manifestation of the two different themes, Hyman and Driver found hardly any relationship between the number of on-premise and off-premise licenses per million people aged 14+. Furthermore, the number of on-premise and off-premise licenses was related to different legal and demographic variables (although both were positively and equally related to per-capita consumption). For example, demographic variables describing the sociocultural composition of states (Table 8) as well as broad regions were all strongly related to the number of on-premise liquor licenses, but weakly if at all related to the number of off-premise liquor licenses. Concordant with the results presented in this table for 1975 and 1978, monopoly vs license state was strongly related to the number of off-premise licenses but hardly at all to the number of on-premise licenses.

Finally, there are only weak relationships between the demographic variables of Table 8 and monopoly vs license state. The two themes of alcohol regulation can be diagramically expressed as follows (four additional themes of state legal control over alcohol matters were revealed, but these were not related to per-capita consumption):

[*continued*—

TABLE 23.—*continued*



In addition to resulting in fewer outlets (for obvious economic reasons) state monopoly of off-premise liquor outlets has other consequences which might lower alcohol consumption. In our opinion, the motive is financial, rather than dry sentiment.

License states may or may not prohibit the use of credit cards or other types of credit to buy liquor at off-premise outlets. We do not know of any license states that prohibit off-premise customers paying by check, though there may be a few. Monopoly states automatically prohibit these practices. License states may or may not prohibit delivery of spirits to the purchaser at his or her home. Monopoly states automatically prohibit this practice. Interestingly enough, delivery of spirits to the consumer's home is also related to demographic variables that influence wet vs dry sentiment and also to the number of on-premise licenses. Hence this variable is strongly related to the number of both on- and off-premise licenses and to per-capita consumption but for two different reasons—financial interests of the state and, to a lesser extent, wet vs dry sentiment. These two motives for control, weakly related to each other, strongly influence whether spirits are permitted to be delivered to the consumer's home. As briefly noted above, both motives are related to per-capita consumption.

TABLE 24.—*Legal Ages for the Purchase of Beer, Wine and Distilled Spirits in January 1940 and January 1980, by State*

	BEER		WINE		DISTILLED SPIRITS	
	1940	*1980*	*1940*	*1980*	*1940*	*1980*
Alabama	21	19	21	19	21	19
Alaska	21	19	21	19	21	19
Arizona	21	19	21	19	21	19
Arkansas	21	21	21	21	21	21
California	21	21	21	21	21	21
Colorado	21	18[a]	21	21	21	21
Connecticut	21	18	21	18	21	18
Delaware	21	20	21	20	21	20
District of Columbia	18	18	18[b]	18[b]	21	21
Florida	21	18	21	18	21	18
Georgia	21	18	21	18	21	18
Hawaii	20	18	20	18	20	18
Idaho	20	19	21	19	21	19
Illinois	21	21	21	21	21	21
Kansas	18[a]	18[a]	21	21	21	21
Indiana	21	21	21	19	21	19
Iowa	21	19	21	21	21	21
Kentucky	21	21	21	21	21	21
Louisiana	21	18	21	18	21	18
Maine	18	20	18	20	18	20
Maryland	21	18	21	18[b]	21	21
Massachusetts	21	20	21	20	21	20
Michigan	21	21	21	21	21	21
Minnesota	21	19	21	19	21	19
Mississippi	18[c]	18[d]	—[c]	18[b]	—[c]	21
Missouri	21	21	21	21	21	21
Montana	21	19	21	19	21	19
Nebraska	20	19	20	19	20	19
Nevada	21	21	21	21	21	21
New Hampshire	21	20	21	20	21	20
New Jersey	21	19	21	19	21	19
New Mexico	21	21	21	21	21	21
New York	18	18	18	18	18	18
North Carolina	18	18	18[b]	18[e]	21	21
North Dakota	21	21	21	21	21	21
Ohio	18[a]	18[a]	21	21	21	21
Oklahoma	21[f]	21	—[f]	21	—[f]	21
Oregon	21	21	21	21	21	21
Pennsylvania	21	21	21	21	21	21
Rhode Island	21	18	21	18	21	18
South Carolina	18	18	18	18	21	21
South Dakota	18[a]	18[a]	18[b]	21	21	21
Tennessee	21	19	21	19	21	19
Texas	21	18	21	18	21	18
Utah	21	21	21	21	21	21
Vermont	21	18	21	18	21	18
Virginia	18[a]	18	21	21	21	21
Washington	21	21	21	21	21	21
West Virginia	18	18	18	18	21	18
Wisconsin	18	18	21	18	21	18
Wyoming	21[g]	19	—[g]	19	—[g]	19

Source: Distilled Spirits Council of the United States [Robert G. Kirk, personal communication].

[a] Age 21 for beer with an alcohol content of more than 3.2% alcohol.

[b] Age 21 for "fortified" or other than "light" wine.

[c] All alcoholic beverages, except beer with an alcohol content of 3.2% or less, prohibited until 1966.

[d] Age 21 for beer with more than 4% alcohol.

[e] Age 21 for wine with more than 14% alcohol.

[f] All alcoholic beverages, except beer with an alcohol content of 3.2% or less (for men aged 21+ and women aged 18+), prohibited until 1959.

[g] All alcoholic beverages, except beer with an alcohol content of 3.2% or less, prohibited until 1973.

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